

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10



WASHINGTON OPERATIONS OFFICE
c/o WASHINGTON DEPARTMENT OF ECOLOGY, PV-11
OLYMPIA, WASHINGTON 98504

March 8, 1990

REPLY TO
ATTN OF:

W00

Larry Dietrich
Pasco Sanitary Landfill
420 E. Ainsworth
Pasco, Washington 99301

Dear Mr. Dietrich

As we have previously discussed on the phone, EPA has decided to list the Pasco Sanitary Landfill in Pasco, Washington on the National Priorities List. EPA has carefully considered the comments you, or others on your behalf, submitted concerning the proposal to add your facility to the National Priorities List. Attached for your information, is EPA's response to those comments.

If you should have any questions you can call me at (206) 753-9014.

Sincerely,

Alison Olson for

Robert E. Kievit
Hazardous Waste Coordinator
Washington Operations Office

cc: David Bennett, Region 10

Attachment

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11.8 PASCO SANITARY LANDFILL, PASCO, WASHINGTON

11.8.1 List of Commenters

NPL-U7-3-51-R10 Correspondence dated 8/2/88 from Larry Dietrich, Pasco Sanitary Landfill.

NPL-U7-3-241-R10 Correspondence dated 8/19/88 from Leslie C. Neller-moe of Heller, Ehrman, White, and McAuliffe on behalf of Chemical Processors, Inc.

NPL-U7-3-247-R10 Correspondence dated 8/23/88 from Steven R. Sagsted, Sweet-Edwards/EMCON, Inc., consultant to Chemical Processors, Inc.

11.8.2 Summary of Comments and Responses

Larry Dietrich, on behalf of Pasco Sanitary Landfill, stated that a telephone survey he made of residents within 3 miles of the site shows that the population served by ground water is only 724, as opposed to the HRS estimate of 15,868. He requested that the HRS score be reduced to 26.31.

Leslie C. Neller-moe, on behalf of Chemical Processors, Inc., parent company of Resource Recovery Corporation (CR₂) which operated a facility at Pasco Sanitary Landfill, believes that it is inappropriate to place the Pasco Sanitary Landfill on the NPL on the basis of the technical data available. Chemical Processors also believes other avenues are readily available for addressing any problem that exists at this site and that such approaches would conserve Federal resources. Ms. Neller-moe requested that the HRS score be reduced to 17.74.

Steven R. Sagsted, a consultant employed by Chemical Processors, Inc., discussed the population served by ground water and the use of alternate sources of water; he also described results of modeling the movement of volatile organic contaminants in the aquifer of concern.

11.8.2.1 Risk Assessment

Ms. Nellermoe argued that "[t]his is not a site that presents the level of risk and concern that justifies listing it on the NPL." She stated that despite the detection of trichloroethylene, tetrachloroethylene, and 1,1,1-trichloroethane, ground water contamination beneath this facility poses little risk of harm to the environment or human health. Ms. Nellermoe argued that the level of risk is indicated by the water supply well on the site which is not contaminated. She maintained that "the levels of contaminants, although significant at the source, do not pose significant risks to downgradient users."

In response, the HRS measures relative rather than absolute risk, and is a screening tool to evaluate the relative potential hazard presented by releases of hazardous substances (53 FR 51963, December 23, 1988). Based on the HRS score, EPA believes the site may present a risk to public health, welfare, or the environment and should be studied more thoroughly under an RI/FS. The RI/FS will determine whether the site actually represents a threat, and what remedial action, if any, should be undertaken.

The HRS does not require that ground water targets currently be affected by the observed ground water release in order to list a site since contamination may spread in the future. EPA has reviewed the HRS evaluation of this site, and believes that a total HRS score of 44.46 reflects both current and future risk significant enough to warrant its addition to the NPL, based upon such other factors as the potential to release and the quantity of waste present.

Ms. Nellermoe also contended that it is not sensible to make decisions based only on the "so-called" preliminary information generated about most sites in the early phases. She maintained that in cases such as the Pasco Sanitary Landfill, which has been studied intensively, the

nature of the risk to the surrounding community and to the environment is known.

In response, even if extensive information is available, interpretation is nearly always subject to dispute. In proposing the HRS, EPA decided to use a small, defined set of data because of the need to develop a nationally uniform scoring system. The HRS, the limited information it requires, and the use of formulas, even when actual data are available, have been fully upheld by the courts (City of Stoughton v. EPA, 858 F.2d 747, 756 (D.C. Cir. 1988)).

11.8.2.2 Transport Modeling

Mr. Sagsted used a numerical ground water transport model to simulate the potential migration rate and decay of volatile organic compounds beneath the Pasco Sanitary Landfill. The model was calibrated by adjusting transport coefficients such that model concentration values at monitoring wells approached actual historical concentrations. He stated that for a worst case model, the predicted concentration of volatile organic compounds in 28 years would be 125 to 200 ppb in the well nearest to the landfill.

In response, the Agency uses the HRS to evaluate sites for the NPL. Although many alternative ground water transport models which simulate the migration of contaminants in an aquifer have been developed, these models may differ in the fundamental physical processes they consider and in the simplifying assumptions they make. Therefore, EPA believes that evaluating the suitability of the various transport models available for a given site would add to the time and expense of applying the HRS. The costs of routine use of such models would be prohibitive. Further, a more sophisticated model than the HRS would require more information than is readily available for most releases when the site is first scored. As stated more fully in the section on Distance to Nearest Well/Population Served by Ground Water, even where such information is available, EPA

decided not to use it because of the need to develop a nationally uniform scoring system.

Within the context of the stated purpose of the NPL, which is to identify for the States and the public those facilities and sites which appear to warrant remedial actions, the HRS is not intended to be equivalent to detailed risk assessments, quantitative or qualitative. The U. S. Court of Appeals upheld the HRS in Eagle-Picher Industries v. EPA (759 F.2d 905, 909 D. C. Cir. 1985) stating that "given the narrow purpose of the HRS and the NPL--to provide an expeditious and relatively inexpensive initial determination of which sites may warrant further action under CERCLA--and in light of the Agency's manifest awareness of the HRS's technical limitations, the model is reasonable and consistent with Congressional intent."

11.8.2.3 Revised HRS

Ms. Nellermoe suggested that another approach to the question of risk posed by this site is to use the new proposed system of risk evaluation (53 FR 51962, December 23, 1988). She stated that the proposed revisions to the HRS should lower the evaluation of the risk posed by the site.

In response, the language of CERCLA Section 105(c)(1) provides that the current HRS shall continue in force until the new HRS becomes effective:

Such amended hazard ranking systems shall be applied to any site or facility to be newly listed on the National Priorities List after the effective date established by the President. Until such effective date of the regulations, the hazard ranking system in effect on September 1, 1984 shall continue in full force and effect.

EPA intends to issue the revised HRS as soon as possible. However, until that newly proposed system has been subject to public comment and put into effect, EPA will continue to list sites using the current HRS,

in accordance with CERCLA Section 105(c)(1) and Congressional intent (54 FR 13299, March 31, 1989).

11.8.2.4 Consequences of Closure

Ms. Nellermoe suggested examining what would happen if the facility were closed as part of a remedial action. She believes that if the landfill were closed, "promiscuous dumping" is likely to increase in the area. She argued that this is a far more direct threat to many people than is the currently attenuating volatile organic contaminant problem.

In response, inclusion of a site on the NPL does not establish what response actions EPA will undertake, nor that EPA necessarily will undertake response actions (49 FR 37071, September 21, 1984). It would therefore be inappropriate for the Agency to consider the consequences of a hypothetical remedial action in determining whether to list a site.

11.8.2.5 RCRA Deferral

Ms. Nellermoe noted that ". . . the site is currently regulated under a wide range of state and federal statutes and implementing regulations. The relevant statutes include Subtitle D of the Resource Conservation and Recovery Act [RCRA], the State Solid Waste Management Act, . . ." and the State Clean Water Act. She pointed out that EPA can appropriately consider this authority in determining not to list a site. She maintained that it is not necessary to list this site because other authorities are available to compel investigation and remediation of this problem. Ms. Nellermoe added that "[t]he risk of environmental harm or ill effects on human health is further diminished by current monitoring efforts . . . pursuant to both an administrative order from the state Department of Ecology [dated October 10, 1986] and the [State] Minimum Functional Standards, regulations pertaining to the operation of landfills and other solid waste management facilities."

In response, the proposed Subtitle D landfill deferral policy does not apply. Under this proposed policy, if it is adopted, deferral would occur only after States have adopted the necessary permit programs that incorporate the revised Federal Subtitle D regulations. (Because closed municipal landfills are not, and will not be regulated by Subtitle D, they would not be deferred in any case.) Since Subtitle D regulations will not go into effect until at least 1991, no deferral would occur for sites in this rule, even if the policy is adopted.

Nor will this site be deferred under other State authorities. EPA has requested comment on whether (and under what conditions) to defer listing sites on the NPL when States have their own cleanup programs in place. However, the Agency has committed not to implement any part of the expanded deferral approach until the significant public and Congressional concerns have been fully reviewed, and a final decision made on the deferral expansion idea. Thus, EPA will not consider deferring the Pasco Sanitary Landfill site at this time.

In a related matter, the Agency has requested comment on the deletion of final sites based on deferral to other authorities (53 FR 51421, December 21, 1988). In the event that a deferral policy is later adopted, there may be an opportunity for "deletion based on deferral" at that time. In addition, the conditions for a "deletion based on deferral" may be more stringent than the criteria for deferral of a site prior to listing, as discussed in the preamble of the proposed revisions to the NCP (53 FR 51421, December 21, 1988).

11.8.2.6 Attribution of Ground Water Contamination

Ms. Nellermoe stated that "[t]he site was scored using TCE [trichloroethylene] and PERC [tetrachloroethylene]. No data exist showing the disposal of these compounds at the CR₂ facility." Ms. Nellermoe maintained that these contaminants are consistent with disposal of wastes from dry cleaners and print shops in other sections of

the landfill. She argued that "[t]he ground water contaminants noted in the vicinity of Zone A . . . do not match the profile of wastes placed in that area by CR₂."

In response, PERC and TCE were found in monitoring wells at the site, but not in background samples. The contaminated wells (EE-2, EE-3, and JUB-2) are within the boundary of the site, at the southwest corner. The background samples (JUB-CONTROL) were obtained at the northeast corner of the site (Reference 1, pages 28, 50, of the HRS documentation record at the time of proposal). Because all of these wells are located within the facility boundaries, it is thus reasonable to attribute this contamination to the Pasco Sanitary Landfill.

With regard to whether or not such contamination results from the activities of CR₂, releases, not companies, are listed. The HRS does not necessarily attempt to attribute contaminants to any particular operation within a site. The NPL is primarily an informational tool for use by the Agency in identifying those sites that appear to present a significant risk to public health or the environment. Listing a site does not in itself reflect a judgment of the activities of its owner or operator. It does not require those persons to undertake any action, nor does it assign liability to any person (49 FR 37071, September 21, 1984). It would therefore be inappropriate for the Agency to consider potential responsibility in determining whether to list a site. Which activities within a site generated contamination would be determined and liability assigned following the RI/FS.

11.8.2.7 Observed Release

Ms. Nellermoe stated that concentrations of contaminants in monitoring wells have tended to decrease since March 1987. She added that dry cleaning waste, which she contended was the source of the contamination, is no longer coming into the landfill, and that the most likely source of contamination is, therefore, not being replenished. She

concluded that there is no reason to believe that the downward trends in contaminant concentration seen at the affected wells will change.

In response, Section 3.1 of the HRS Users Manual (47 FR 31224, July 16, 1982) states that an observed release to ground water has occurred if a contaminant is measured above background, "regardless of frequency;" a trend need not be established (49 FR 37078, September 21, 1984). Thus, new data submitted by a commenter showing a downward trend in contaminant concentration do not necessarily refute the earlier data used to assign a value for an observed release because many releases vary in concentration through time or occur sporadically. In this case, Reference 1 (pages 28 and 50) in the HRS documentation record at the time of proposal demonstrate an observed release to ground water, as discussed in the previous section. The courts have upheld EPA's interpretation on this point (see City of Stoughton v. EPA, 8 F.2d 747, 756 (D.C. Cir. 1988)).

11.8.2.8 Waste Quantity, Ground Water

Ms. Nellermoe pointed out that the HRS "directs the scorer to include in calculating the quantity of wastes present at the site all hazardous substances at a facility (as received), except that (sic) with a containment value of zero." She argued that there is no evidence that the containment factor was considered. She maintains that the quantity of wastes with a containment score other than 0 is 1,492 drums. Ms. Nellermoe indicated that barium sludges were placed in lined trenches with appropriate covers, and that metal finishing/cleaning wastes were placed in lined ponds with appropriate covers. She also stated that the containers in which pesticide and paint wastes were buried are sound and the monitoring well system in place would detect any leaks. The commenter argued that "a leachate detection system is not necessary or appropriate in this acid [sic] climate and hence should not be required for lower [containment] score;" if the containment factor value becomes 0

these wastes should be omitted from the hazardous waste quantity determination. Ms. Nellermoe requested that the score for this factor be reduced from 8 to 5.

In response, Section 3.4 of the HRS Users Manual (47 FR 31229, July 16, 1982) requires that substances in a surface impoundment have a sound run-on diversion structure, an essentially impermeable liner compatible with the waste, and an adequate leachate collection system to receive a containment score of 0 for the ground water route, and thus not be considered for hazardous waste quantity. The commenter claimed that the barium sludges and metal finishing/cleaning wastes meet the cover and lining condition, but she failed to present evidence that these wastes have any run-on diversion structure. Substances in containers must be sealed and in sound condition, and be buried with an adequate liner and an adequate leachate collection system to be omitted from consideration for the hazardous waste quantity. The commenter has presented evidence that the pesticide and paint wastes meet the soundness condition, but has failed to present evidence that these wastes are buried with a liner. The commenter admitted that none of the wastes has any leachate collection system.

EPA presumes that the commenter's argument concerning the necessity for a leachate detection system should refer to an arid climate, because low rainfall and high evaporation would likely produce only small quantities of leachate. However, the observed release of hazardous substances to ground water at the site demonstrates that some of the waste is migrating, despite the existing climate. It is therefore reasonable that a leachate collection system be required for the wastes to be eligible for a 0 containment factor value. The hazardous substances present at the site would receive a non-zero containment value based on the lack of any such system. These materials are thus properly included in the calculation of the hazardous waste quantity.

Ms. Nellermoe further argued that in scoring waste quantity, "it seems appropriate to look at the released substance and attempt to quantify it." She admitted that "incomplete data is available, but it is reasonable to assume that the total quantity of PERC and TCE is less than ten tons or cubic yards." The commenter requested that the factor value for waste quantity be further reduced to 1 for this reason.

In response, Section 3.4 of the HRS Users Manual directs that "[h]azardous waste quantity include all hazardous substances at a facility (as received) except that with a containment value of 0" (47 FR 31229, July 16, 1982). The HRS documentation record at the time of proposal (page 3) properly reflects all hazardous substances known to have been received by the facility, not just those substances which can be documented to have leaked. The value of 8 for this factor was correctly assigned.

11.8.2.9 Ground Water Use

Mr. Sagsted and Ms. Nellermoe pointed out that two alternative unthreatened sources are available--a deeper aquifer in the basalt underlying the shallow aquifer and the Columbia River. Ms. Nellermoe further requested that the ground water use factor value be changed to either 2 or 1. She argued that because the primary use of this aquifer downgradient of the landfill is irrigation, 1 is most correct.

In response, the assigned value for this factor indicates the highest level of the use made of ground water drawn from the aquifer of concern within 3 miles of the hazardous substance (Section 3.5 of the HRS Users Manual, 47 FR 31230, July 16, 1982). As stated in the HRS documentation record at the time of proposal, ground water is used for drinking water within 3 miles of the site, and no alternative source is presently available. The Agency considers an alternative source to be available if it can be provided quickly and easily, e.g., connection from a house to an existing water main in the street in front of the house.

Although the deeper aquifer and the Columbia River are unthreatened sources of drinking water, the commenters have not established that they are quickly and easily available to the target population.

11.8.2.10 Distance to Nearest Well/Population Served by Ground Water

Mr. Dietrich stated that he had contacted ". . . all drinking water users indicated as having more than 3.8 persons per well" in sheet 4A in the HRS documentation record. His survey indicated that 260 people use ground water for drinking within 3 miles of the site, rather than the 1,049 people estimated by the Agency. He noted that owners often overestimate the number of users on their domestic water permit applications, which are compiled in the State of Washington Public Water Supply System listing (Reference 8).

In response, the Agency accepts the figures provided by Mr. Dietrich, particularly the 22 mobile homes (or 83.6 people) determined to be currently at the Lakeview Mobile Home Park versus the 800 people listed on the permit and used at the time of proposal. The HRS documentation record has been amended to reflect his survey, and the survey has been added as Reference 19 in the HRS documentation record at the time of promulgation. This revision has no effect on the factor value assigned.

Mr. Dietrich also contacted all irrigation water users listed in sheet 4B, 4C, and 4D in the HRS documentation record. His survey indicated that 464 people use ground water for irrigation within 3 miles of the site, rather than the 14,820 people estimated by the Agency. He maintains that the 1.5 person per irrigated acre conversion does not apply to large, center pivot irrigation systems common to the area around the site. Mr. Dietrich requested that the value for the population served factor be reduced from 5 to 2.

In response, the 1.5 person per irrigated acre conversion is intended to measure the potential threat to consumers of food grown with potentially contaminated ground water, not the number of people directly involved in irrigation. Therefore, the particular method of irrigation is not considered for HRS purposes. Rather, the HRS assigned value for this factor is based on approximately 9,900 acres that are irrigated for agricultural purposes with ground water drawn from within 3 miles of the site (Reference 9). This acreage corresponds to 14,820 equivalent ground water users using the 1.5 person per irrigated acre conversion factor provided in Section 3.5 of the HRS Users Manual (47 FR 31233, July 16, 1982). While the food chain is not treated as a separate pathway of exposure, food chain contamination is indirectly addressed in the rating of target population exposed to potentially contaminated water through irrigation (47 FR 31191, July 16, 1982).

In summary, 260 people use ground water for drinking, and irrigation with ground water corresponds to 14,820 users, for a total population served by ground water of 15,080. No change in the value of 5 assigned for this factor is required.

Mr. Sagsted undertook a preliminary assessment of downgradient users. He estimated downgradient users of ground water to include 460 people and the population equivalent converted from irrigated acres to be 340 people, based on 226.5 irrigated acres downgradient of the landfill.

Ms. Neller-moe noted that Agency guidance has expressly rejected the idea that only the population downgradient of the hazardous substance should be counted because the HRS is designed as a screening tool. She stated that "[a]lthough this rationale is generally sound, it is inapplicable here. The ground water flow direction at this site is well known One can, therefore, more precisely identify the size of the population likely to be affected by the substances" Ms. Neller-moe pointed out that this approach is, in fact, encouraged by

the HRS Users Manual, which recognizes that aquifer discontinuities exist, and says that users beyond a discontinuity need not be counted. She contended that flow "gradient is [a] . . . well-recognized discontinuity." Ms. Nellermoe agreed with Mr. Sagsted that the actual number of downgradient users is between 101 and 1,000. Ms. Nellermoe requested that the value for the population served factor be reduced from 5 to 2.

Similarly, Ms. Nellermoe declared "Properly evaluating the nearest well, i.e, looking at downgradient wells, the PSL [Pasco Sanitary Landfill] water supply well is no longer the closest well."

In response, the HRS does not specifically take into account such level of detail as ground water flow gradients in order to determine target populations under the HRS. In proposing the HRS, EPA decided not to use ground water flow information, even when available, because of the need to develop a nationally uniform system for scoring a large number of sites expeditiously with commonly-available data. In responding to public comments on the proposed HRS on July 16, 1982 (47 FR 31190), EPA explained that it is generally not practicable to determine the population actually exposed or threatened by using ground water flow information. In many instances, the information is not available, and in others the flow direction varies over time. Even where there is extensive knowledge of geohydrology, interpretation is nearly always subject to dispute. Requiring a precise measure of the affected population would add inordinately to the time and expense of applying the HRS. As noted above, the approach of utilizing formulas even when data is available has been sustained by the courts.

Instead, the HRS utilizes a radius of 3 miles around the site when determining the distance to the nearest well in the contaminated aquifer and the population at risk due to actual or potential contamination, provided there is no discontinuity that completely transects the aquifer

of concern between the site and the well being scored for HRS purposes. Flow gradient is not considered a discontinuity (as shown in Figure 6 of the HRS Users Manual, 47 FR 31232, July 16, 1982). As stated in 49 FR 37077 (September 21, 1984), in establishing the rating scales, the Agency took into account the fact that most wells within the 3-mile radius would not be affected. If EPA had established rating scales based only on the population that was certain to be affected, the scales would have assigned higher values for any given target population than are specified in the HRS. Both the nearest well and the population served factors have been scored correctly under the HRS.

11.8.3 Conclusion

The original migration score for this facility was 44.46. Based on the above response to comments, the score remains unchanged. The final HRS score for Pasco Sanitary Landfill are:

Ground Water	76.92
Surface Water	0.00
Air	0.00
Total	44.46